REMARKS

By this amendment, claims 1, 4-9, 12 and 14-18 have been cancelled and claims 1, 3, 11, 13 and 19 have been amended in the application. Currently, claims 1, 3, 10-11, 13 and 19 are pending in the application.

The title was objected to because it was not descriptive. By this amendment, the title has been amended to "SYSTEM AND METHOD FOR SCHEDULING MEDICAL EXAMINATIONS UTILIZING QUEUES AND PROVIDING MEDICAL EXAMINATION ROUTE GUIDE INFORMATION TO THE SCHEDULED EXAMINATIONS" as the Examiner suggested. Applicants respectfully submit that the amended title is now proper and this objection should be withdrawn.

Claims 1-19 were rejected under 35 USC 103(a) as being obvious over Waytena et al. (U.S. Patent No. 6,748,364) in view of Katz et al. (Simulation or Outpatient Appointment Systems (1969)) and further in view of Butz et al. (A Hybrid Indoor Navigation System (2001)). Claims 2 and 12 were rejected under 35 USC 103(a) as being obvious over Waytena et al. in view of

Katz et al. and further in view of Butz et al. and further in view of Hirsch et al. (WO 97/25682).

These rejections are respectfully traversed in view of the amendments to the claims and the remarks below.

The present invention relates to a medical examination system that manages the order of patients waiting for a medical examination so as to minimize the time that is required from the start to the end of the medical examination of the patients in an on-site medical examination facility (see page 1, lines 6-10 of the specification).

Specifically, Fig. 5 illustrates a waiting line queue means for individual medical examination items so that multiple patients can be managed for reducing the time spent on medical examination items. Fig. 5 includes isolated empty ids where no patient has been scheduled. In managing the waiting line queue means shown in Fig. 5, isolated empty ids are replaced with void ids and they cannot be utilized again so as to shorten the medical examination time by suppressing the effects thereof so that no patient who has scheduled an appointment has a long medical examination time due to the occurrence of isolated empty ids. This is because of the dispersion of the time intervals of

the average medical examination time Ta to Td of the medical examination items 12A to 12D shown in FIG. 2.

In the case that a first appointment is available in an isolated empty id for each patient, the maximum medical examination time is assumed to be set in advance at, for example, T0, or less. In Fig. 5, there is an isolated empty id in the second item of the queue of the medical examination item 12C and the time Twc for which the next appointment is available indicates the time of this leading empty id and the times Twd, Twb, Twa for which the next appointments are available for the other medical examination items 12D, 12B, 12A indicate the times immediately after the final patients id3, id5, id7, respectively. Therefore, the appointment process of the patient idx of this time has the order of 12C, 12D, 12B, and 12A. At this time as shown in Fig. 5, an empty id is inserted immediately after the final patient id5 of the medical examination item 12B in the route (1) according to the order and the medical examination time of the patient idx becomes T1 (> T0). This medical examination time T1 is equal to, or larger than, the medical examination time T0 that has been decided in advance and this appointment process is not confirmed because the first medical examination item 12C

starts from the empty id. Therefore, this empty id is converted to a void id that cannot be utilized again so that the waiting time Twc of the medical examination item 12C is updated to the time immediately after the patient id4 that is the time for which the next appointment is available and the appointment process is repeated again. Then, an appointment is assumed to be scheduled for a new patient idy in the order of 12D, 12C, 12B, and 12A of the new patient idy the order becomes along the route (2) wherein empty ids are inserted immediately after the patient id4 of the medical examination item 12C and immediately after the patient id5 of the medical examination item 12B and the medical examination time is shortened to T2. In the case that this medical examination time T2 is the constant medical examination time T0, or less, and the first medical examination item 12D is not an empty id, the entire appointment process is confirmed in this route (2) (see page 21, line 8 - page 23, line 4).

By this amendment, independent claims 1 and 11 have been amended to recite "said scheduler includes means for maintaining an unconfirmed state of an entire appointment process in case an interval between a starting time of the first appointment and a completion time of an appointment for a last medical examination

item becomes at least equal to a predetermined amount of time and one of said medical examination items starts with an empty queue time period and means for changing the empty queue time period to a void queue time period that cannot be utilized again, and means for repeating an appointment process and means for confirming the entire appointment process when an interval between the starting time of the first appointment and the completion time of the appointment for said last medical examination item becomes less than the predetermined amount of time and one of said medical examination items starts with a non-empty queue time period".

Similarly, independent method claim 19 has been amended to recite "maintaining an unconfirmed state of an entire appointment process in case an interval between a starting time of the first appointment and a completion time of an appointment for a last medical examination item becomes at least equal to a predetermined amount of time and one of said medical examination items starts with an empty queue time period and means for changing the empty queue time period to a void queue time period that cannot be utilized again, and repeating an appointment process and means for confirming the entire appointment process when an interval between the starting time of the first

appointment and the completion time of the appointment for said

last medical examination item becomes less than the predetermined

amount of time and one of said medical examination items starts

with a non-empty queue time period".

These features are not shown or suggested by Waytena et al.,

Katz et al., Butz et al., Hirsch et al. or any combination of

these references.

Waytena et al. relate to scheduling patron reservations in

facilities offering numerous attractions such as amusement parks,

and more particularly, to a system, methods and apparatuses for

assigning and managing reservations using wireless personal

communication devices (see col. 1, lines 13-18).

Waytena et al. disclose that Fig. 1 is shown a block diagram

of a reservation system 100. A plurality of attraction computers

101 is provided, each associated with a particular attraction

(see col. 5, lines 8-11). System 100 also includes a plurality

of personal communication devices (PCDs) 102, each associated

with a patron or group of patrons visiting the park.

Waytena et al. also disclose that first, the patron requests

302 a reservation for a selected attraction by entering the

request using user interface 201 of PCD 102. Attraction

availability is determined based on attraction information

storage 213 (such as, for example, operating hours for the

attraction), virtual queue 210 containing information describing

pending reservations, and physical queue monitor 103 which

provides information describing the physical queue for the

attraction. If processor 209 determines in step 309 that the

attraction is available, the processor 209 determines in step 311

a proposed reservation time or position for the patron. The time

or position of the proposed reservation may be based on a number

of different factors, including the number of reservations held

in the virtual queue 210, data from physically present and

waiting for access to the attraction, historical time/demand

data, current actual throughput (number of patrons being served

per unit time), predicted throughput, the number of individuals

in the patron's party, and other static or dynamic performance

information. This reservation time is temporarily held in

virtual queue 210, awaiting confirmation from the patron (see

col. 12, line 33 - col. 13, line 5).

Waytena et al. also disclose that Fig. 7 describe a method

of determining an earliest possible time to schedule a proposed

reservation in virtual queue 210. This is done by traversing

virtual queue 210 to find a "gap" large enough to schedule a new proposed reservation for the patrons making the request. If no such gap is found, the proposed reservation is added to the end of virtual queue 210 (see col. 22, lines 44-50).

The Examiner admitted that Waytena et al. do not disclose the system and method for scheduling appointments: maintains an unconfirmed state of the entire appointment process in case an interval between a start time of the first appointment and a completion time of an appointment for a last appointment item becomes at least equal to a predetermined amount of time and one of the appointments starts with an empty queue time period; changing the empty queue time period to a void queue that cannot be utilized again; and repeating the appointment process; and confirming the entire appointment process when the interval between the starting time of the first appointment and the completion time of the last medical examination item becomes less than a predetermined amount of time and one of the medical examination item starts with a non-empty queue time period as claimed in independent claims 1, 11 and 19 (see page 26, line 10 - page 27, line 8 of the office action).

For these reasons, it is believed that Waytena et al. do not show or suggest the present claimed features of the present invention. Applicants also submit that Katz et al. do not make up for the deficiencies in Waytena et al.

Katz et al. disclose an experimental computer program which simulates appointment systems employed by outpatient departments of hospitals. Both major kinds of appointment systems, individual and block can be simulated. The purpose of the simulator is to enable the user to evaluate the effectiveness of alternative appointment system in a given clinical environment.

Katz et al. also disclose the "measures of performance" of outpatient appointment systems. Katz et al. also disclose statistics relating to patient-waiting-time, patient queues, and physician-idle-time are fundamental measures of performance; and these statistics are among those produced by the simulator (see page 222, right column, lines 7-12).

Katz et al. do not disclose that the scheduler includes means for maintaining an unconfirmed state of an entire appointment process in case an interval between a starting time of the first appointment and a completion time of an appointment for a last medical examination item becomes at least equal to a

predetermined amount of time and one of the medical examination items starts with an empty queue time period and means for changing the empty queue time period to a void queue time period that cannot be utilized again, and means for repeating an appointment process and means for confirming the entire appointment process when an interval between the starting time of the first appointment and the completion time of the appointment for the last medical examination item becomes less than the predetermined amount of time and one of the medical examination items starts with a non-empty queue time period as claimed in independent claims 1 and 11.

Similarly, Katz et al. also do not disclose maintaining an unconfirmed state of an entire appointment process in case an interval between a starting time of the first appointment and a completion time of an appointment for a last medical examination item becomes at least equal to a predetermined amount of time and one of the medical examination items starts with an empty queue time period and means for changing the empty queue time period to a void queue time period that cannot be utilized again, and repeating an appointment process and means for confirming the entire appointment process when an interval between the starting

time of the first appointment and the completion time of the appointment for the last medical examination item becomes less than the predetermined amount of time and one of said medical examination items starts with a non-empty queue time period as claimed in independent claim 19.

For these reasons, it is believed that Katz et al. do not show or suggest the present claimed features of the present invention. Applicants also submit that Butz et al. do not make up for the deficiencies in Waytena et al. and Katz et al.

Butz et al. relate to a hybrid building navigation system consisting of stationary information booths and a mobile communication infrastructure feeding small portable devices.

Butz et al. disclose the graphical presentations for both the booths and the mobile device are generated from a common source and for the common task of way finding, but they use different techniques to convey possibly different subsets of the relevant information.

Butz et al. do not disclose that the scheduler includes means for maintaining an unconfirmed state of an entire appointment process in case an interval between a starting time of the first appointment and a completion time of an appointment

for a last medical examination item becomes at least equal to a

predetermined amount of time and one of the medical examination

items starts with an empty queue time period and means for

changing the empty queue time period to a void queue time period

that cannot be utilized again, and means for repeating an

appointment process and means for confirming the entire

appointment process when an interval between the starting time of

the first appointment and the completion time of the appointment

for the last medical examination item becomes less than the

predetermined amount of time and one of the medical examination

items starts with a non-empty queue time period as claimed in

independent claims 1 and 11.

Similarly, Butz et al. also do not disclose maintaining an

unconfirmed state of an entire appointment process in case an

interval between a starting time of the first appointment and a

completion time of an appointment for a last medical examination

item becomes at least equal to a predetermined amount of time and

one of the medical examination items starts with an empty queue

time period and means for changing the empty queue time period to

a void queue time period that cannot be utilized again, and

repeating an appointment process and means for confirming the

entire appointment process when an interval between the starting time of the first appointment and the completion time of the appointment for the last medical examination item becomes less than the predetermined amount of time and one of said medical examination items starts with a non-empty queue time period as claimed in independent claim 19.

For these reasons, it is believed that Butz et al. do not show or suggest the present claimed features of the present invention. Applicants also submit that Hirsch et al. do not make up for the deficiencies in Waytena et al., Katz et al. and Butz et al.

Hirsch et al. relate to optimal scheduling systems and booking systems, and more particularly to optimal scheduling systems especially suited for hospitals and clinics.

Hirsch et al. disclose that the computer implemented optical scheduling method includes the steps of, for each procedure to be scheduled on a given day, performing a feasibility check to determine if it is possible to schedule the procedure on the day, and subsequent to the feasibility check, optimizing the scheduling of the plurality of medical procedures in accordance with the present optimal criteria (see page 5, lines 10-15).

Hirsch et al. do not disclose that the scheduler includes means for maintaining an unconfirmed state of an entire appointment process in case an interval between a starting time of the first appointment and a completion time of an appointment for a last medical examination item becomes at least equal to a predetermined amount of time and one of the medical examination items starts with an empty queue time period and means for changing the empty queue time period to a void queue time period that cannot be utilized again, and means for repeating an appointment process and means for confirming the entire appointment process when an interval between the starting time of the first appointment and the completion time of the appointment for the last medical examination item becomes less than the predetermined amount of time and one of the medical examination items starts with a non-empty queue time period as claimed in independent claims 1 and 11.

Similarly, Hirsch et al. also do not disclose maintaining an unconfirmed state of an entire appointment process in case an interval between a starting time of the first appointment and a completion time of an appointment for a last medical examination item becomes at least equal to a predetermined amount of time and

one of the medical examination items starts with an empty queue time period and means for changing the empty queue time period to a void queue time period that cannot be utilized again, and repeating an appointment process and means for confirming the entire appointment process when an interval between the starting time of the first appointment and the completion time of the appointment for the last medical examination item becomes less than the predetermined amount of time and one of said medical examination items starts with a non-empty queue time period as claimed in independent claim 19.

The Examiner admitted that Waytena et al., Katz et al., Butz et al. and Hirsch et al. do not disclose minimizing/optimizing a patient's total examination time. The Examiner also took official notice that a schedule minimization technique is grouping (consolidating) medical procedures together.

Applicants respectfully submit that the presently claimed invention desires to make the total medical examination time shorter than a predetermined time of the medical examination but does not desire to minimize the total medical examination time. In other words, the present invention requires that the total medical examination time is shorter than the predetermined time

of the medical examination but it is not required that the total medical examination time be minimized. For example, even though one of the medical examination items starts with an empty queue time period, if the total medical examination time is shorter than the predetermined time of the medical examination, the empty queue time period would be utilized. Therefore, applicants respectfully submit that even though official notice was taken of a schedule minimization technique grouping (consolidating) medical procedures together, it would not have been obvious to one of ordinary skill in the art to combine Katz et al., Waytena et al., Butz et al., and Hirsch et al. to achieve the presently claimed invention because there is no teaching or suggestion confirming that the total medical examination time is shorter than the predetermined time of the medical examination as discussed above.

It is therefore respectfully submitted that Waytena et al., Katz et al., Butz et al., and Hirsch et al., individually or in combination, do not teach, disclose or suggest the presently claimed invention and it would not have been obvious to one of ordinary skill in the art to combine these references to render the present claims obvious.

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Applicants also respectfully submit that the features claimed in independent claims 1, 11 and 19 and dependent claims 3, 10 and 13 define over the prior art of record and allowance of these claims is respectfully requested.

In view of foregoing claim amendments and remarks, it is respectfully submitted that the application is now in condition for allowance and an action to this effect is respectfully requested.

If there are any questions or concerns regarding the amendments or these remarks, the Examiner is requested to telephone the undersigned at the telephone number listed below.

Respectfully submitted,
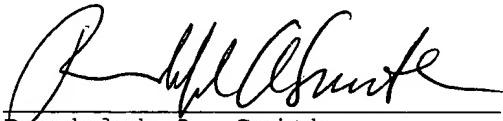
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